



# **HIV/AIDS in Michigan**

## **January 1, 2009**

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**Michigan Department of Community Health  
HIV/STD/VH/TB Epidemiology Section  
Division of Communicable Diseases  
Bureau of Epidemiology**

Thanks go to Jada Koushik of the Section staff for creating this slide set.



## **Quarterly HIV/AIDS Report, Michigan January 2009**

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- This presentation was created as a companion to the Quarterly HIV/AIDS Report for January 1, 2009.
- Please refer to the quarterly report for further details, definitions and technical notes.

## **Section 1**



## **Data on Prevalent Cases**



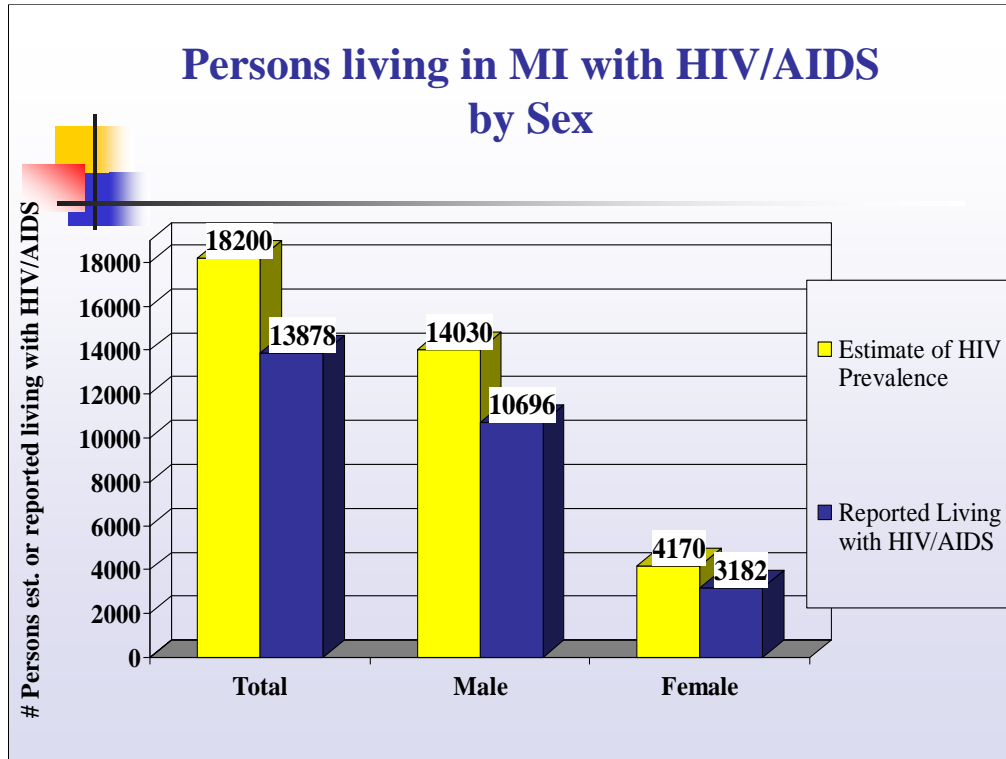
## Estimate of HIV Prevalence

The prevalence estimate is based on, and includes, the number of persons with HIV/AIDS reported by name but also contains:

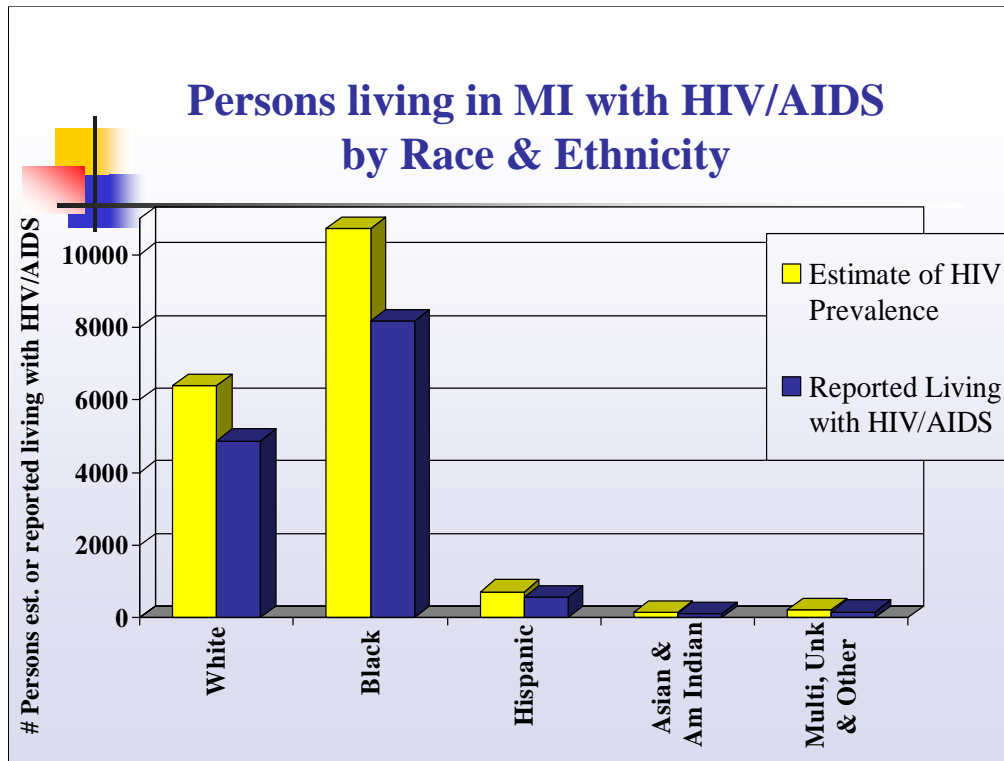
- Persons who have not yet been tested
- Persons tested but not yet reported to MDCH
- Persons tested but reported anonymously

These slides present both estimated prevalence as well as reported prevalence. This slide defines these terms while the next one illustrates the HIV prevalence estimates for Michigan.

HIV prevalence estimates in this report are based on adding the following three components and rounding: 1) the number of cases living with HIV/AIDS, 2) the number of known HIV+ cases not yet reported by name, estimated at 10 percent of the reported living HIV/AIDS cases, and 3) the number of HIV+ cases that have not yet been tested, estimated at 21 percent of the total cases living with HIV/AIDS (identical to the CDC estimate).

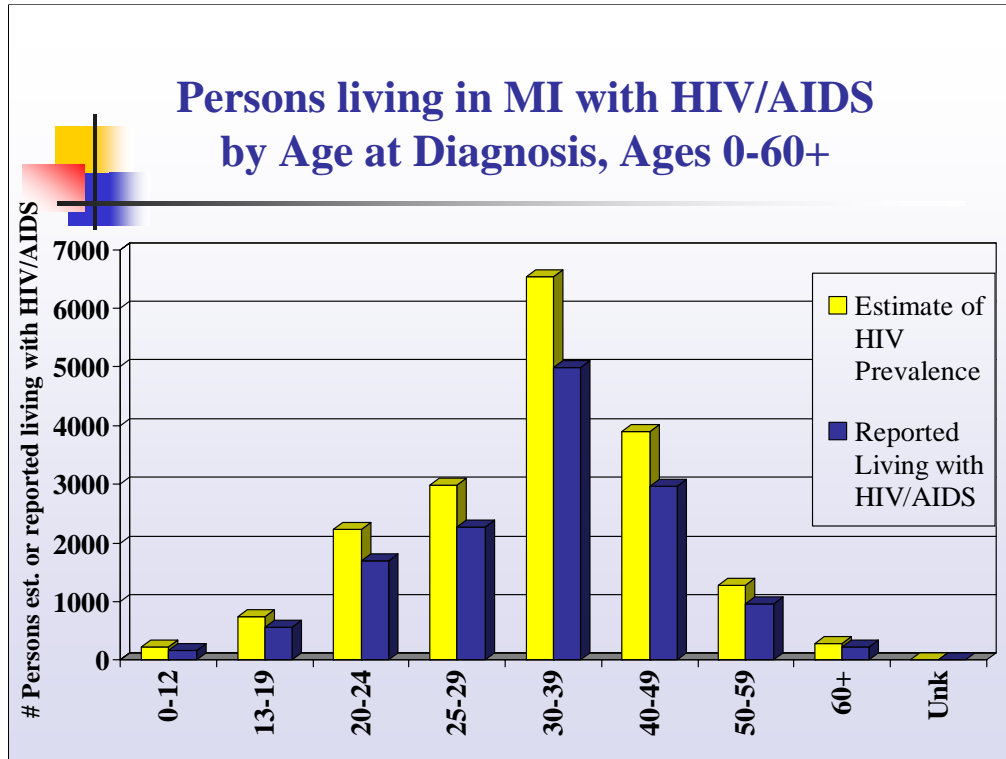


The yellow bars display MDCHs estimate and includes unreported and untested persons. The blue bars represent the total number of persons reported with HIV/AIDS in the categories displayed at the bottom of the bars.



To put these data in perspective, 59% of infected people are black while the State of Michigan's population is approximately 14% black.

The yellow bars display MDCH's estimate and includes unreported and untested persons. The blue bars represent the total number of persons reported with HIV/AIDS in the categories displayed at the bottom of the bars.



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## Reported Prevalence

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### Reported Living with HIV/not AIDS:

All living persons confidentially reported with HIV infection, excluding those with AIDS.

### Reported Living with AIDS:

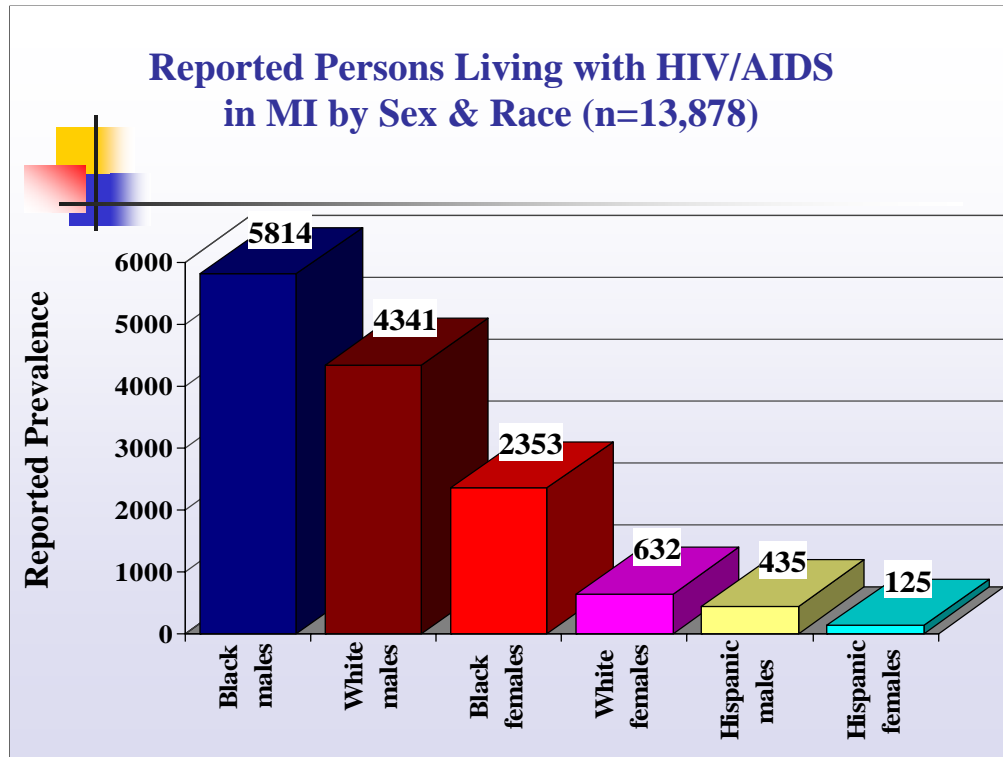
All living persons confidentially reported who meet the AIDS case definition.

### Reported Living with HIV/AIDS:

All living persons confidentially reported with HIV infection, including those with AIDS.

Reported prevalence includes persons who were living in Michigan at the time of their initial HIV diagnosis, regardless of current residence. This follows CDC policy on assigning residence.

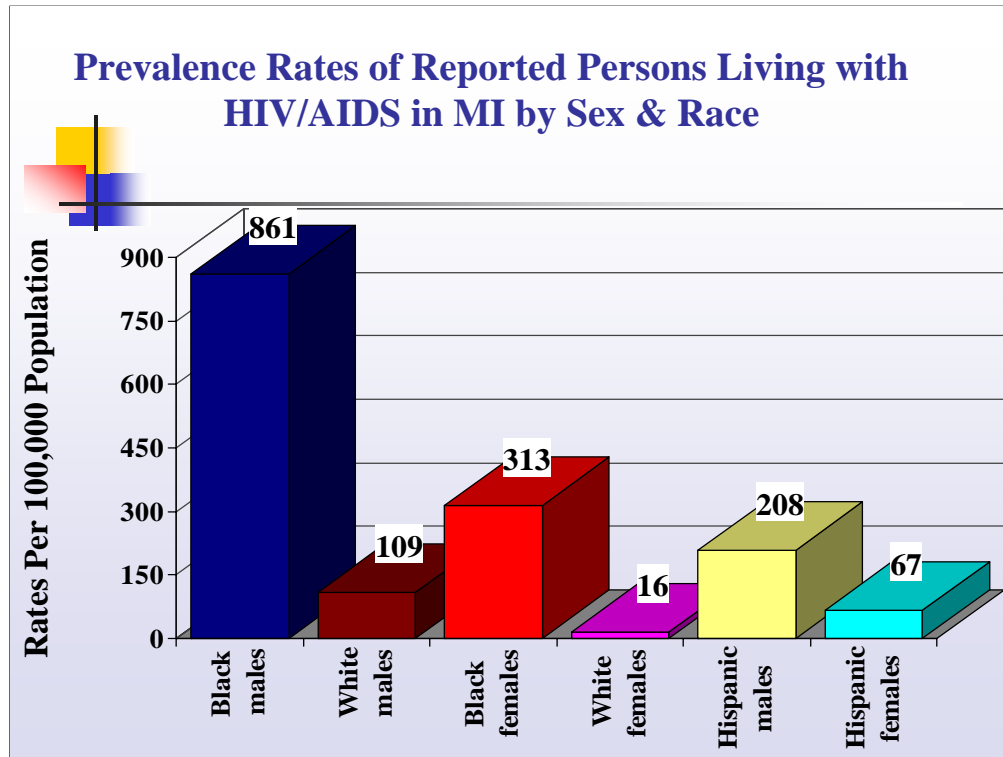




*\*These categories are arranged by number of cases from high to low.*

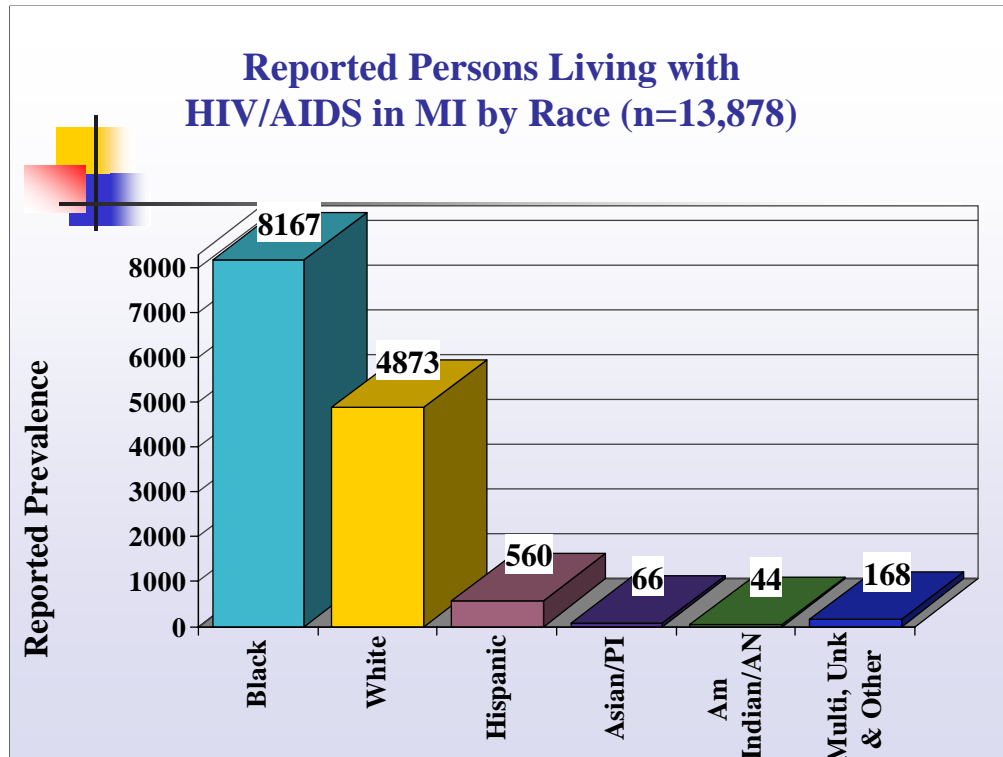
***Reported Prevalence by SEX & RACE (n= 13,878)***

<b>All Males</b>	10,696
White Males	4,241
Black Males	5,814
Hispanic Males	435
Other Males	206
<b>All Females</b>	3,182
White Females	632
Black Females	2,353
Hispanic Females	125
Other Females	72



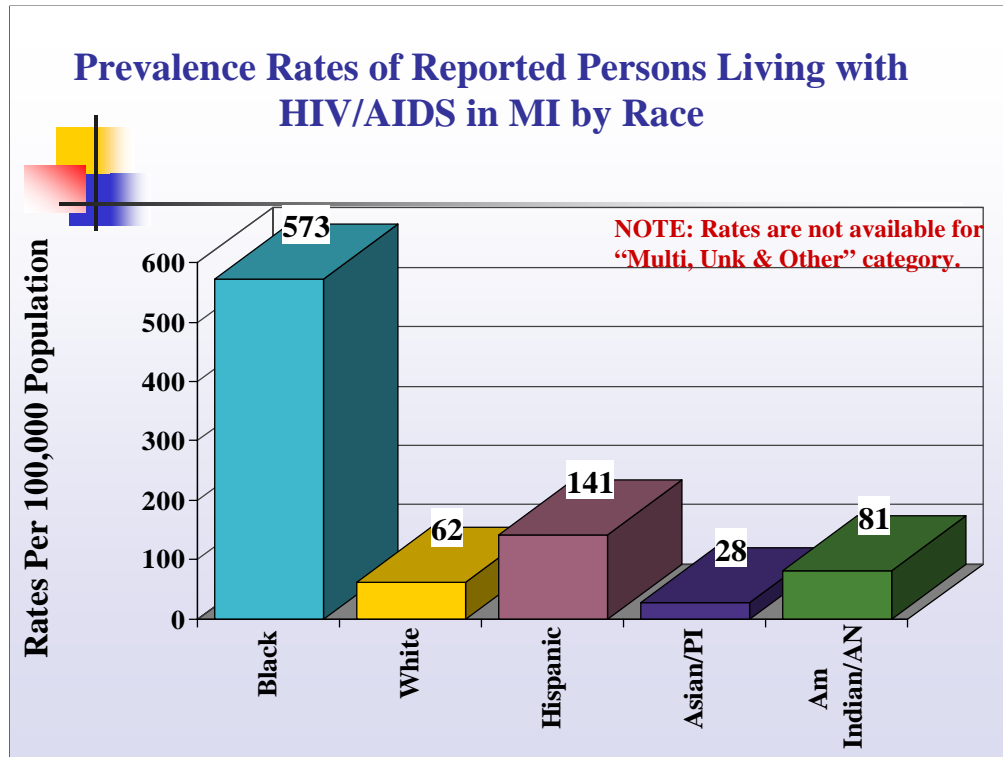
***Prevalence Rates Per 100,000 Population by SEX & RACE***

<b>All Males</b>	215
<i>White Males</i>	109
<i>Black Males</i>	861
<i>Hispanic Males</i>	208
<i>Other Males</i>	97
<b>All Females</b>	62
<i>White Females</i>	16
<i>Black Females</i>	313
<i>Hispanic Females</i>	67
<i>Other Females</i>	34



### Reported Prevalence by RACE

Black	8,167
White	4,873
Hispanic	560
Asian/PI	66
Am Indian/AN	44
Multi/Unk/Other	168



**\*Please note that rates are not available for Multi, Unk, & Other category.**

**Prevalence Rates Per 100,000 Population by RACE**

Black	573
White	62
Hispanic	141
Asian/PI	28
Am Indian/AN	81

No rate is shown for the multi/unk/other category because the population size needed for the denominator is unknown

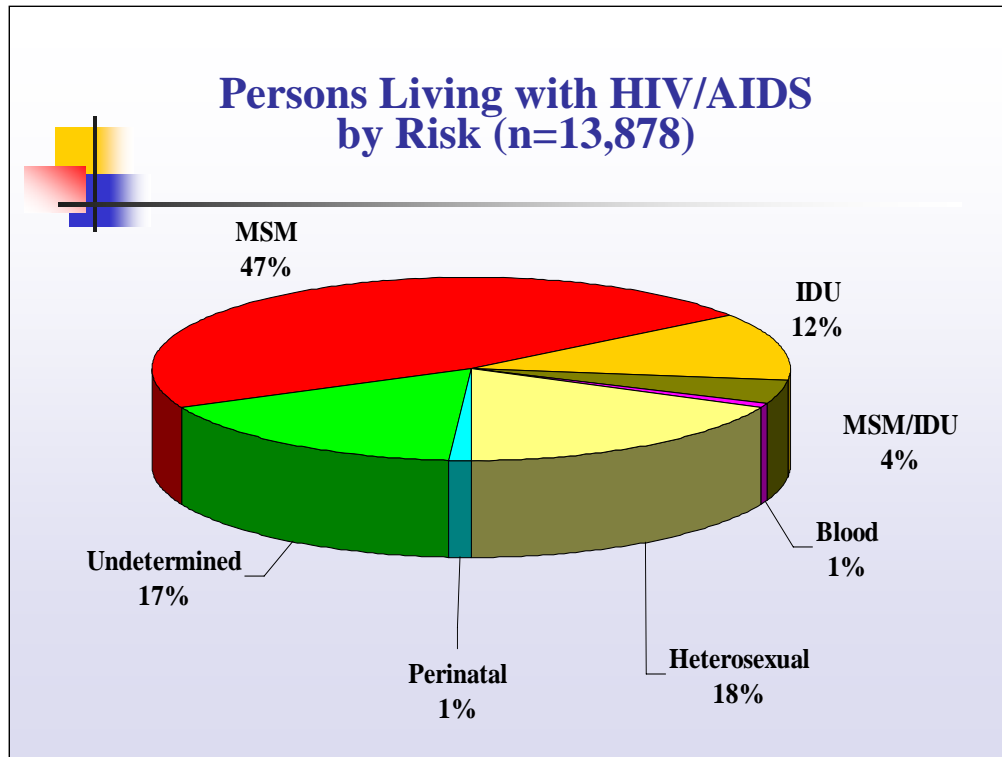


## Risk Transmission Categories

- Risk transmission categories are the hierarchical risk categories that have been used for displaying HIV transmission risk in Michigan and national HIV/AIDS statistics since the 1980's.
- The order from top to bottom is meant to represent the most likely route through which HIV is transmitted, and thus implies that some modes of transmission are more efficient than others.

### **Risk Transmission Categories**

Risk transmission categories are the hierarchical risk categories that have been used for displaying HIV transmission risk in the Michigan and national HIV/AIDS statistics since the 1980's. When the transmission categories were created, the order from top to bottom was meant to represent the most likely route through which HIV was transmitted, and thus implies that some modes of transmission are more efficient than others. The hierarchy was established based on what was known at the beginning of the epidemic about how HIV was transmitted, when almost all cases were among men and there was little documented heterosexual transmission. Since then, the hierarchy has not changed appreciably even though our understanding of the most efficient HIV transmission routes has changed.



**Heterosexual category includes:**

*HRH (High Risk Heterosexuals)*

Males and females whose sexual partners are known to be HIV-infected or at high risk for HIV. The partners meet one of the following criteria: a history of sexual contact with bi-sexual males (for females), IDU, hemophiliacs, HIV+ transfusion recipients, or other HIV+ persons of unknown risk.

*PH (Presumed Heterosexual)-Female*

Females whose only reported risk is heterosexual contact, and their male partners' risk and HIV status is unknown.

**IDU (Injection Drug User)**

Persons who have a history of injecting drugs.

**Perinatal**

HIV transmission from mother to child during birth or through breastfeeding.

**MSM (Men who have sex with men)**

Males who have a history of sexual contact with other men or with both men and women.

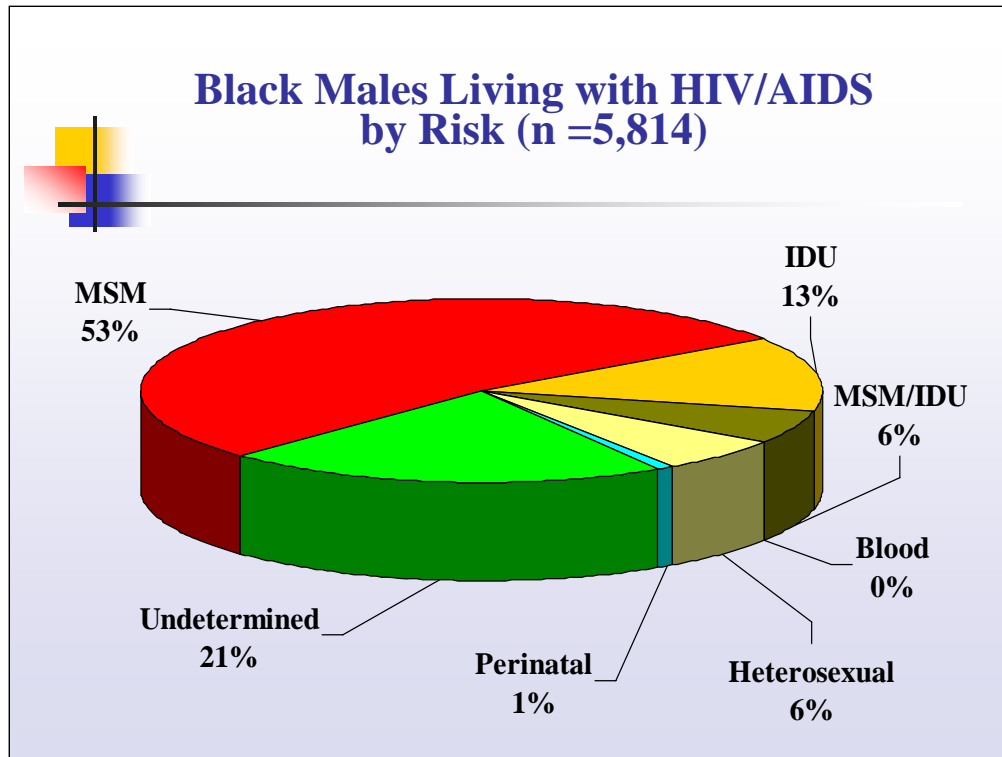
**MSM/IDU**

MSM who also have a history of injecting drugs.

**Undetermined category includes:**

*PH (Presumed Heterosexual)-Male*

Males whose only reported risk is heterosexual contact, and their female partners' risk and HIV status is unknown. PH male is a subcategory of undetermined instead of heterosexual (like the PH female cases) because of the likelihood that a



**Heterosexual category includes:**

*HRH (High Risk Heterosexuals)*

Males whose sexual partners are known to be HIV-infected or at high risk for HIV. The partners meet one of the following criteria: IDU, hemophiliacs, HIV+ transfusion recipients, or other HIV+ persons of unknown risk.

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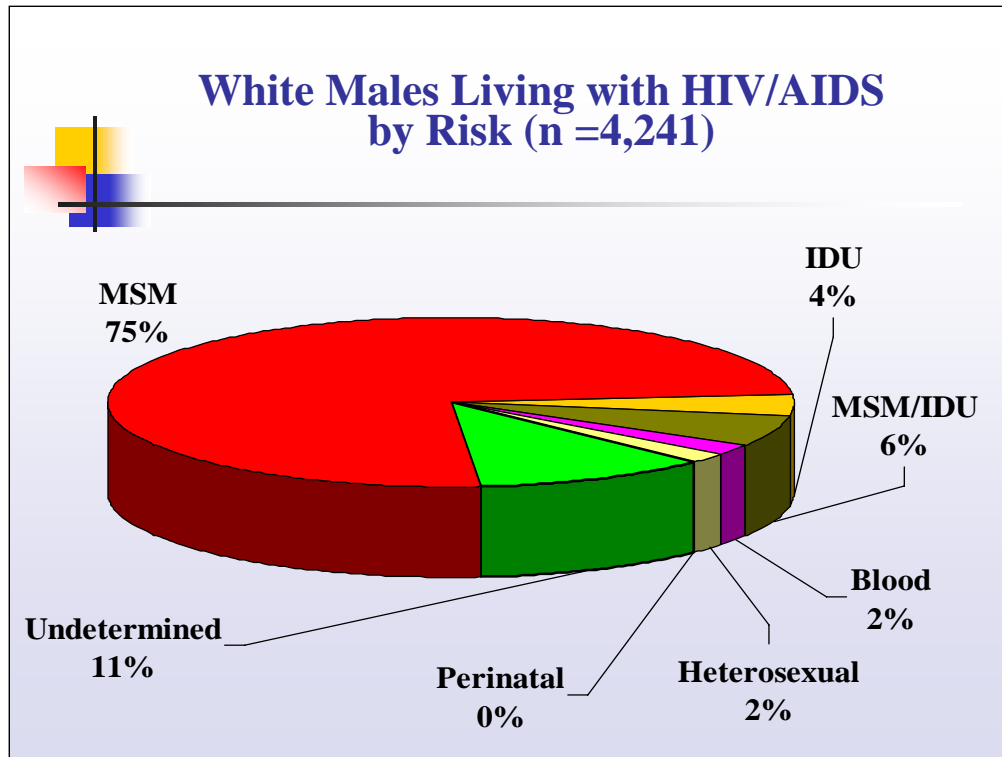
**Undetermined category includes:**

*PH (Presumed Heterosexual)-Male*

Males whose only reported risk is heterosexual contact, and their female partners' risk and HIV status is unknown. PH male is a subcategory of undetermined instead of heterosexual (like the PH female cases) because of the likelihood that a proportion of these cases are likely MSM

*Unknown*

Males with no identified risk.



**Heterosexual category includes:**

*HRH (High Risk Heterosexuals)*

Males whose sexual partners are known to be HIV-infected or at high risk for HIV. The partners meet one of the following criteria: IDU, hemophiliacs, HIV+ transfusion recipients, or other HIV+ persons of unknown risk.

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Persons who have a history of injecting drugs.

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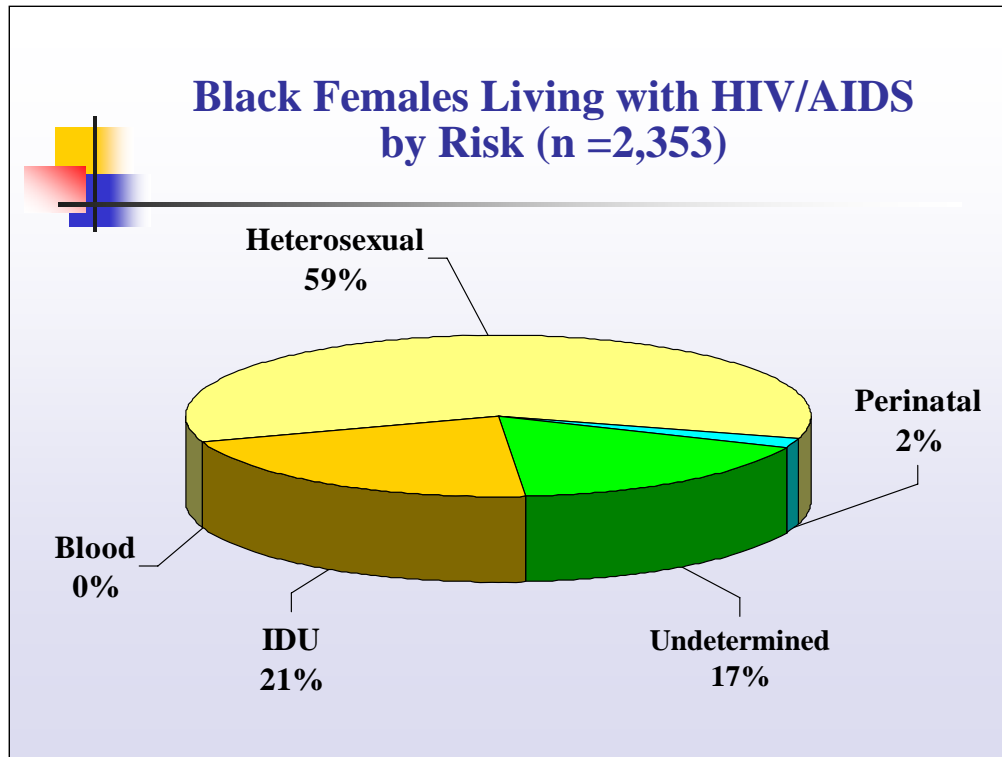
*PH (Presumed Heterosexual)-Male*

Males whose only reported risk is heterosexual contact, and their female partners' risk and HIV status is unknown. PH male is a subcategory of undetermined instead of heterosexual (like the PH female cases) because of the likelihood that a proportion of these cases are likely MSM

*Unknown*

Males with no identified risk.





**Heterosexual category includes:**

*HRH (High Risk Heterosexuals)*

Females whose sexual partners are known to be HIV-infected or at high risk for HIV. The partners meet one of the following criteria: a history of sexual contact with bi-sexual males, IDU, hemophiliacs, HIV+ transfusion recipients, or other HIV+ persons of unknown risk.

*PH (Presumed Heterosexual)-Female*

Females whose only reported risk is heterosexual contact, and their male partners' risk and HIV status is unknown.

**IDU (Injection Drug User)**

Persons who have a history of injecting drugs.

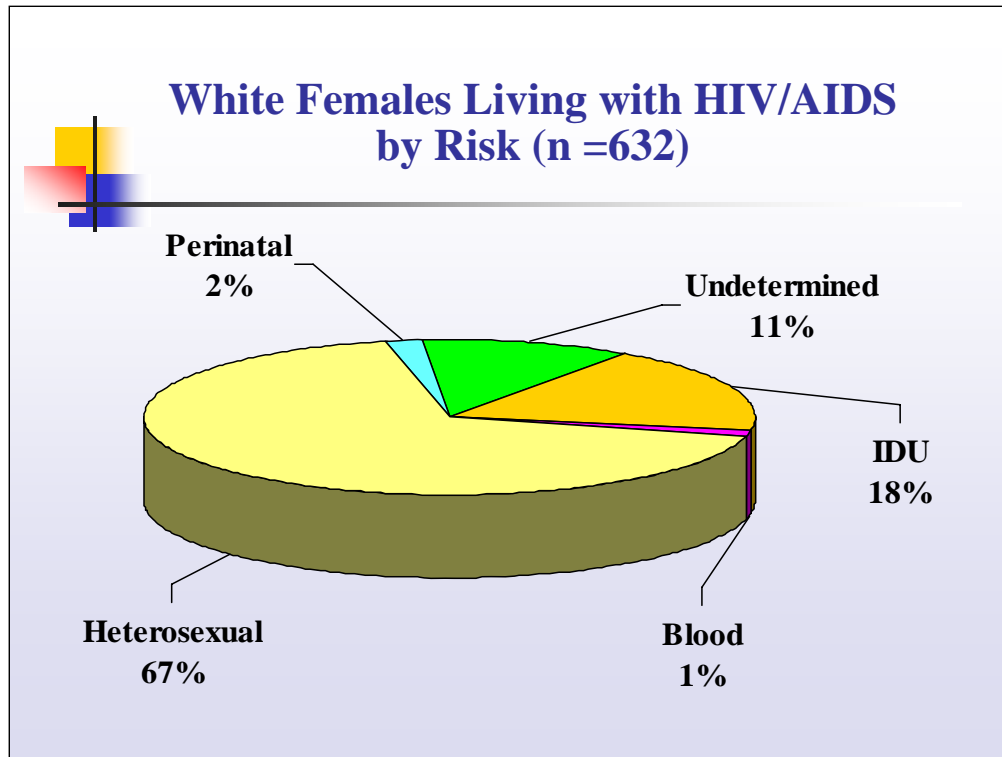
**Perinatal**

HIV transmission from mother to child during birth or through breastfeeding.

**Undetermined category includes:**

*Unknown*

Females with no identified risk.



**Heterosexual category includes:**

*HRH (High Risk Heterosexuals)*

Females whose sexual partners are known to be HIV-infected or at high risk for HIV. The partners meet one of the following criteria: a history of sexual contact with bi-sexual males, IDU, hemophiliacs, HIV+ transfusion recipients, or other HIV+ persons of unknown risk.

*PH (Presumed Heterosexual)-Female*

Females whose only reported risk is heterosexual contact, and their male partners' risk and HIV status is unknown.

**IDU (Injection Drug User)**

Persons who have a history of injecting drugs.

**Perinatal**

HIV transmission from mother to child during birth or through breastfeeding.

**Undetermined category includes:**

*Unknown*

Females with no identified risk.

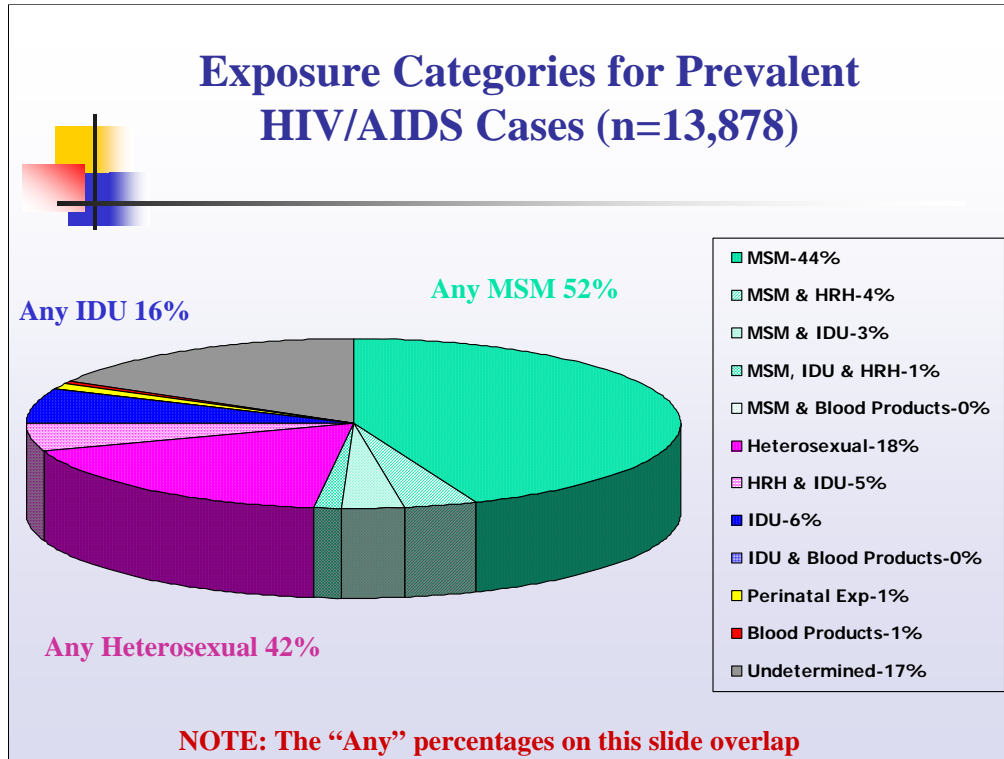


## Exposure Categories

- Exposure categories convey all risks that a person is documented to have engaged in that could have exposed him or her to HIV.
- Like the traditional risk hierarchy categories, the exposure categories are mutually exclusive, meaning that each person is only included in one category.
- Michigan is unique in that it is the first state to display mode of transmission using exposure categories.

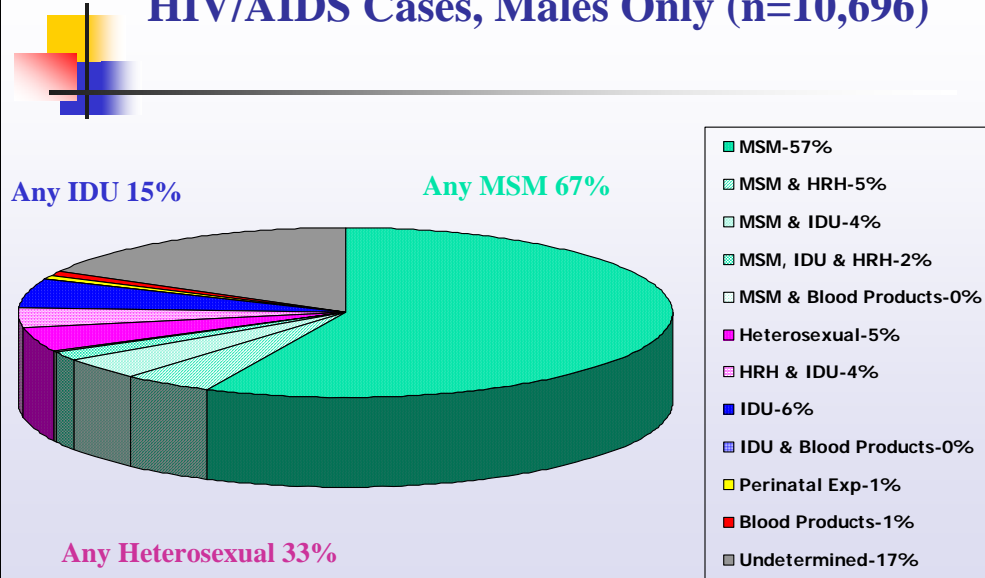
### **Exposure Categories**

The 'Exposure Categories' convey all risks that a person is documented to have engaged in that could have exposed him or her to HIV. Like the traditional risk hierarchy categories, the Exposure Categories are mutually exclusive, meaning that each person is only included in one category. However, the categories, as presented, allow readers to see all the ways in which a person may have been infected with HIV and, with the exception of undetermined risk, are displayed in decreasing order of frequency.



Exposure Categories are mutually exclusive: Each case is only represented in one category. However, the “Any” summary percentages on this slide are not mutually exclusive, that is, a case can be counted in more than one category. For example, an MSM/IDU is counted in both the Any MSM % and the Any IDU %.

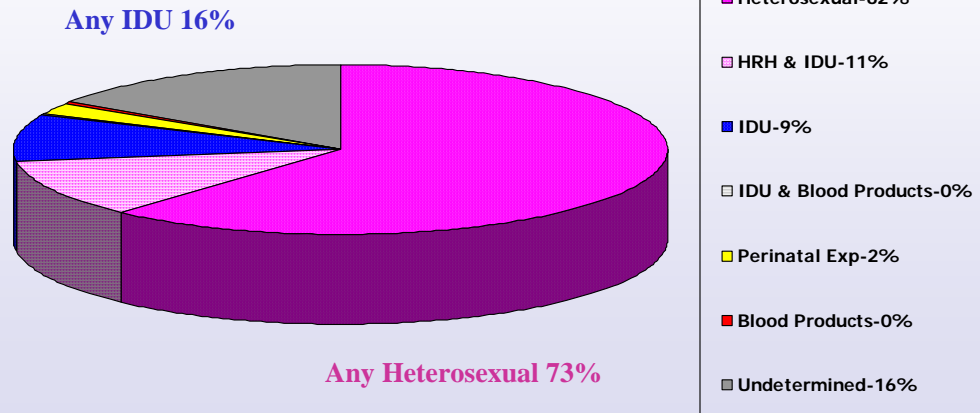
## Exposure Categories for Prevalent HIV/AIDS Cases, Males Only (n=10,696)



**NOTE: The “Any” percentages on this slide overlap**

Exposure Categories are mutually exclusive: Each case is only represented in one category. However, the “Any” summary percentages on this slide are not mutually exclusive, that is, a case can be counted in more than one category. For example an MSM/IDU is counted in both the Any MSM % and the Any IDU %.

## Exposure Categories for Prevalent HIV/AIDS Cases, Females Only (n=3,182)



**NOTE: The “Any” percentages on this slide overlap**

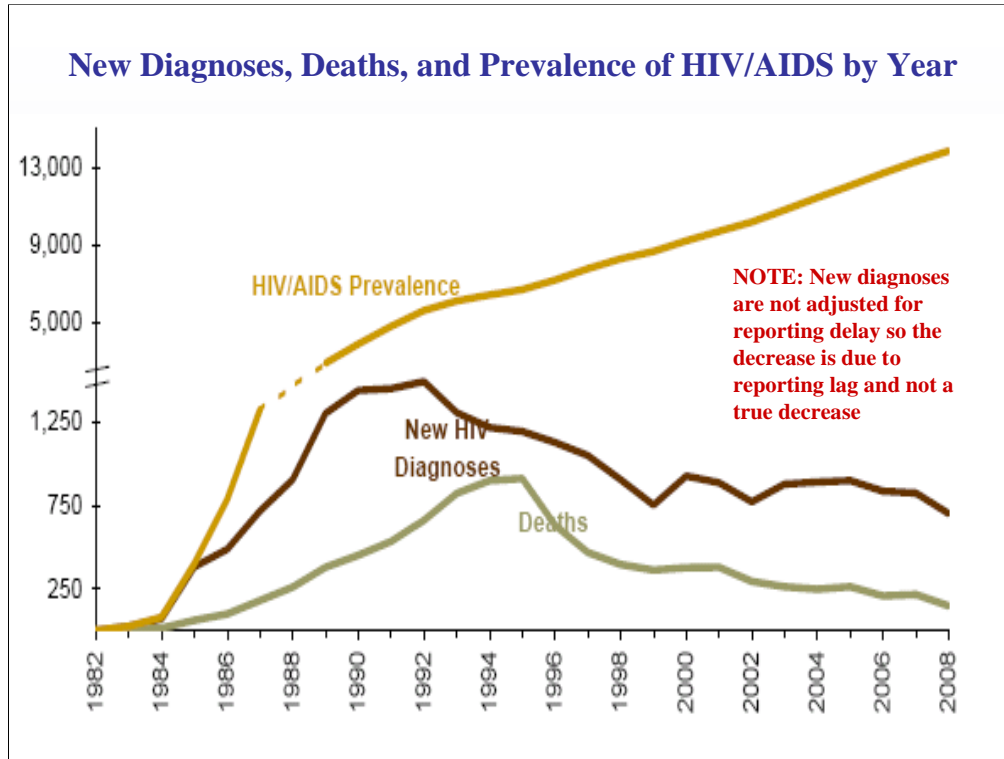
Exposure Categories are mutually exclusive: Each case is only represented in one category. However, the “Any” summary percentages on this slide are not mutually exclusive, that is, a case can be counted in more than one category. For example a woman who is HRH and IDU is counted in both the Any Heterosexual % and the Any IDU %.

## Section 2



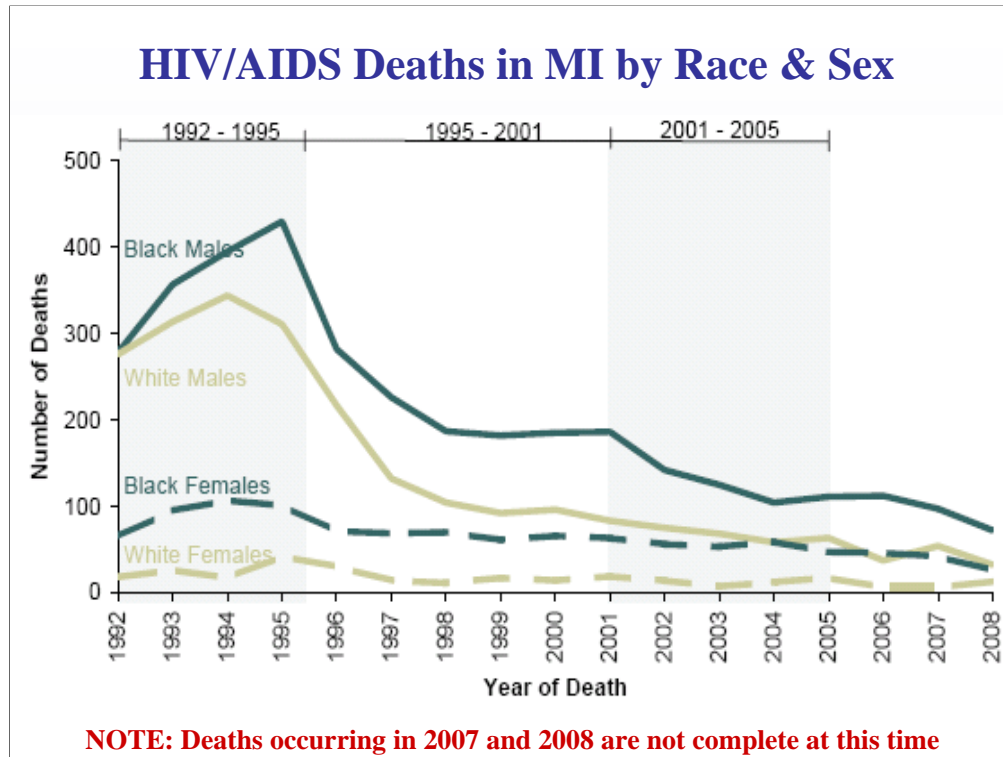
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## New Diagnoses, Deaths, Prevalence

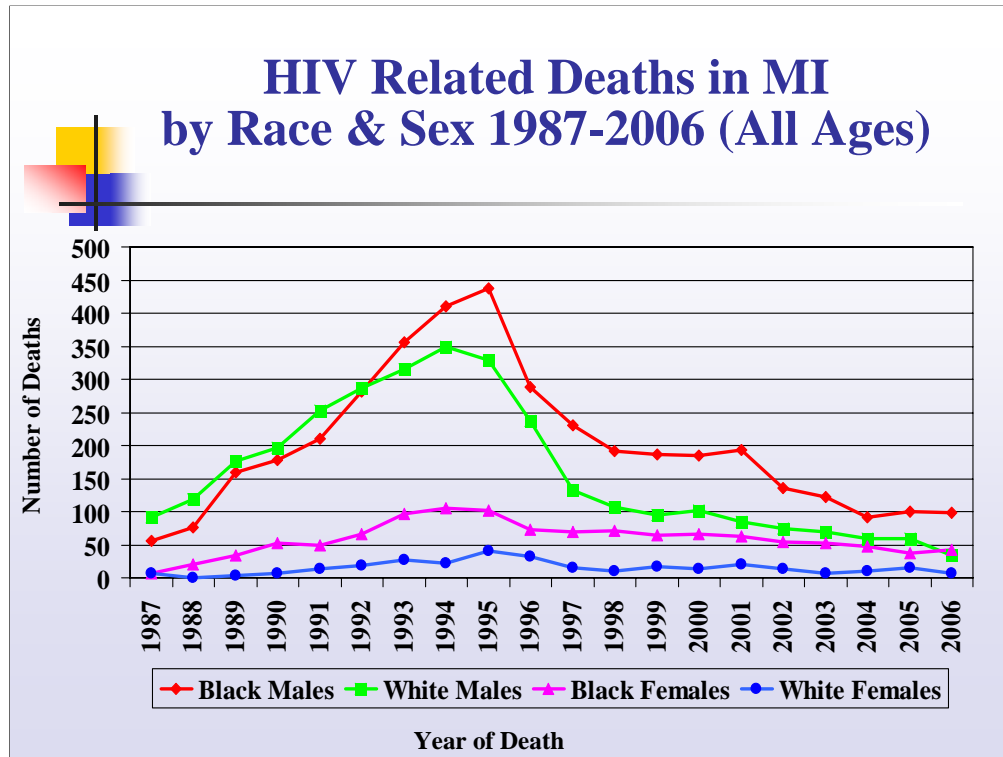


The increase in HIV prevalence shows that the number of persons diagnosed, while stable for the last several years, is greater than the number of deaths each year. This directly contributes to the increase in prevalence. The current reported prevalence of HIV/AIDS in Michigan is 13,878. The prevalence of AIDS, which is a subset of HIV/AIDS prevalence, is 7,410.



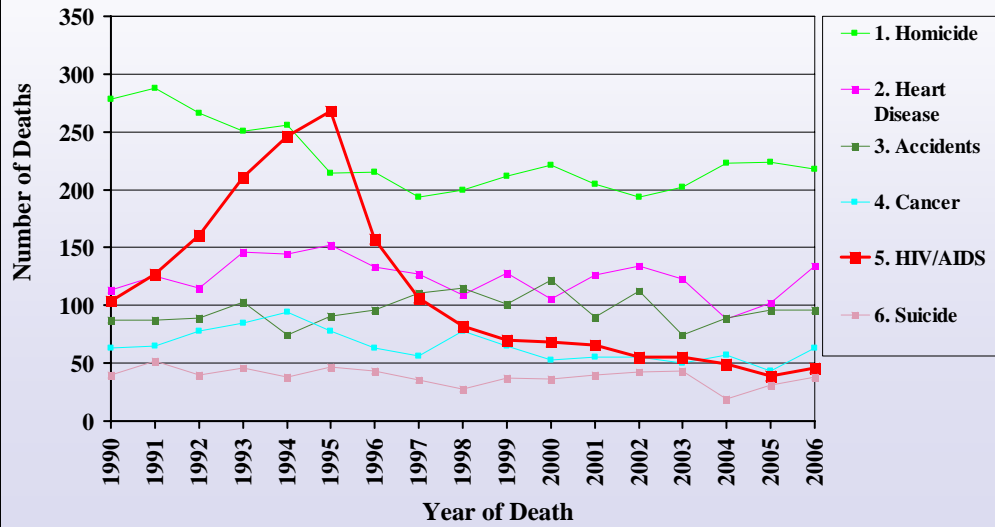


This figure shows the number of HIV-infected Michigan residents who have been reported as deceased by a local health department, the department of vital records via a data match or death certificate, or an alternate source. The number of deaths increased in all race/sex groups from the beginning of the epidemic through approximately 1994-1995. The number of deaths decreased markedly between 1995 and 1998 and then were relatively stable until 2001. It should be noted that the percent decrease in deaths among white males (73%) between 1995 and 2001 was more pronounced than the percent decrease among black males (57%), and the percent decrease among white females (55%) was larger than the percent decrease among black females (38%). Encouragingly, the number of deaths in black males has fallen substantially from 2001 to 2005 (40%), even in comparison to white males (24%), black females (25%), and white females (11%), but the number of deaths among black males still exceeds that of any other race/sex group.

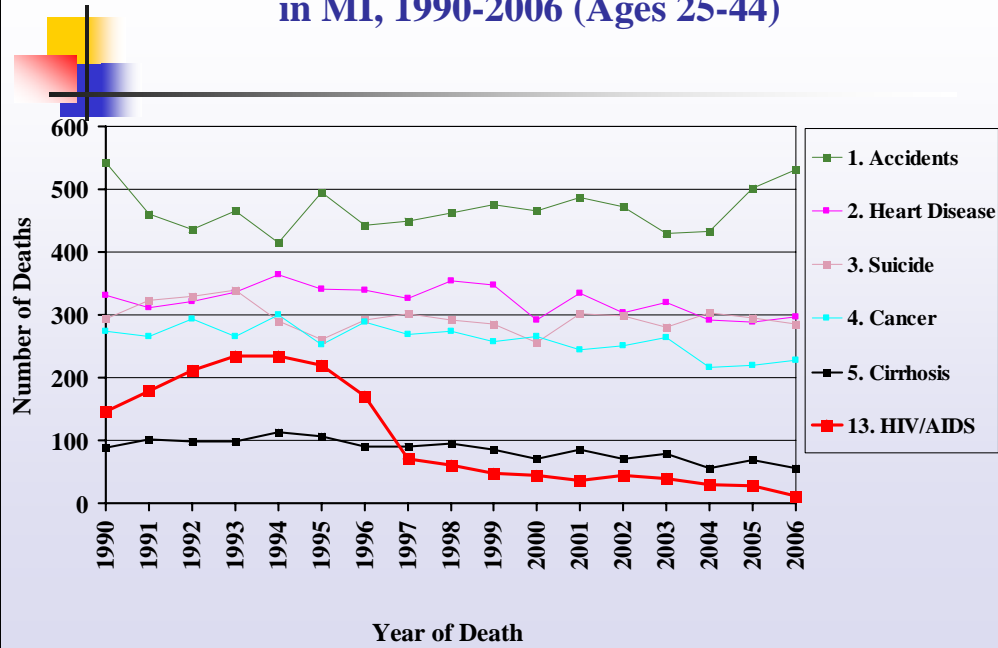


In 2006 for the first time the number of HIV deaths among black women exceeded those among white men.

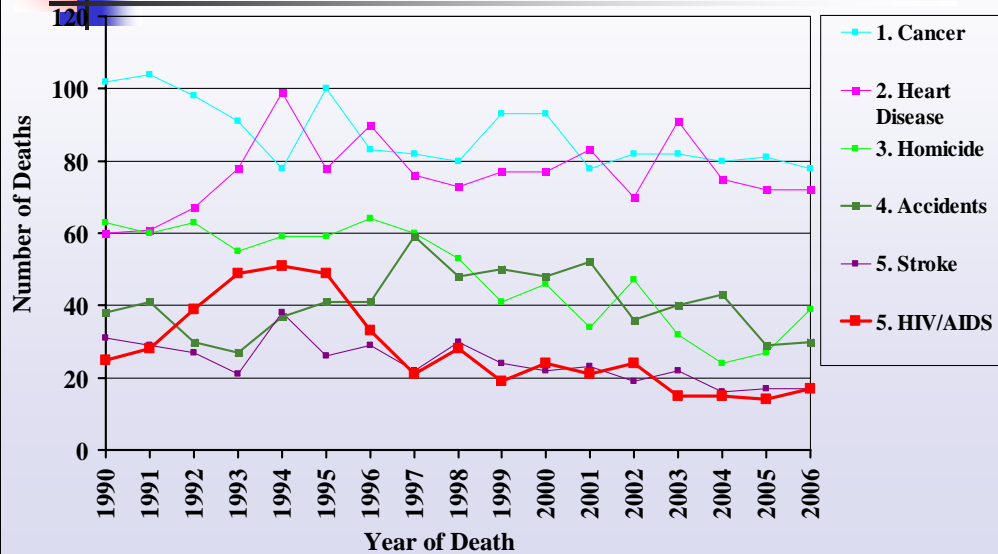
## Leading Causes of Death Among Black Men in MI, 1990-2006 (Ages 25-44)



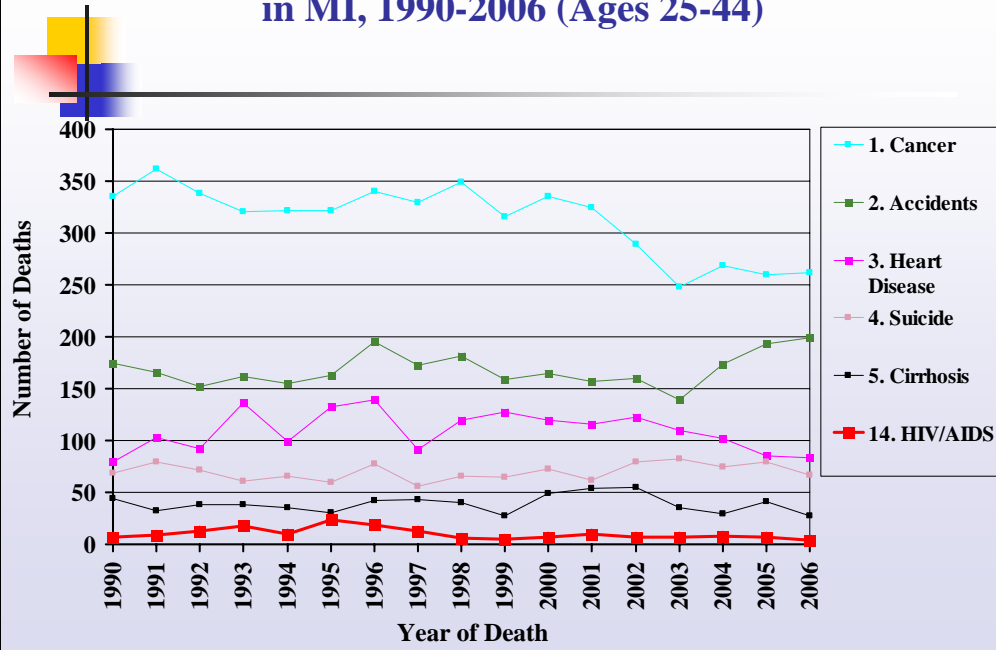
## Leading Causes of Death Among White Men in MI, 1990-2006 (Ages 25-44)



## Leading Causes of Death Among Black Women in MI, 1990-2006 (Ages 25-44)



## Leading Causes of Death Among White Women in MI, 1990-2006 (Ages 25-44)



## **Section 3**



# **Geographic Distribution of HIV/AIDS**



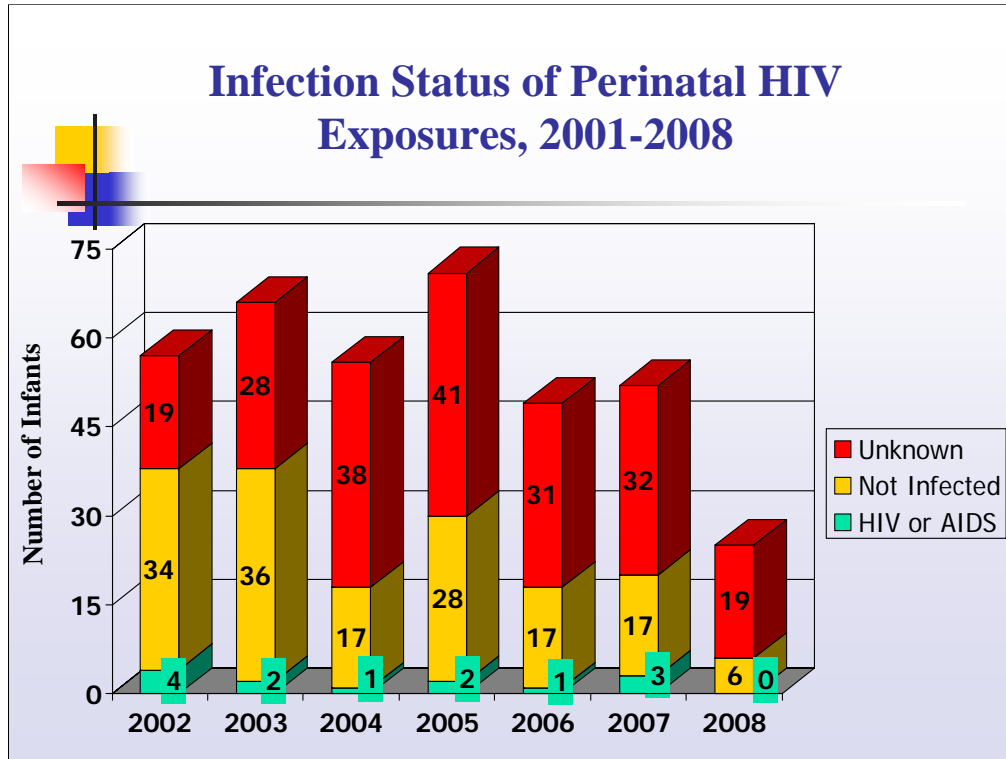


## **Section 4**



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### **Information on Perinatally HIV Exposed Infants**



Since 1994, the CDC and other organizations involved in perinatal HIV transmission have recommended that HIV-positive pregnant women receive doses of zidovudine (ZDV or AZT) prenatally and at labor and delivery and that children born to these women receive ZDV neonatally. Despite these recommendations, only 57% of births to HIV-positive women are documented by MDCH to have received all three arms of therapy. For more information, please see the annual Missed Opportunity report, which can be found at:  
[http://www.michigan.gov/mdch/0,1607,7-132-2940\\_2955\\_2982\\_46000\\_46003-166892--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_2982_46000_46003-166892--,00.html)